

## Estimated flood losses and savings for 1939—Continued

River and drainage	Tangible property	Matured crops	Prospective crops	Livestock and other movable farm property	Suspension of business	Total	Lives lost	Reported savings as the result of warnings
<b>Lower Mississippi Basin</b>								
St. Francis River.....	60,250		1,205,000	6,000	51,850	1,323,100		170,525
Tallahatchie River.....			125,000			125,000		
<b>WEST GULF OF MEXICO</b>								
Trinity River.....	800		1,500	75		2,375		12,000
Colorado River.....	350,000					350,000		
Rio Grande.....	5,800	1,500				7,300		
<b>GULF OF CALIFORNIA</b>								
<b>Colorado Basin</b>								
Gila River.....	12,950					12,950		
<b>Total.....</b>						13,833,806	83	2,278,300

## RIVER STAGES AND FLOODS

By BENNETT SWENSON

Heavy rains and floods occurred in eastern Texas during November 1940. The floods were confined mainly to the Sulphur, Sabine, Neches, and Trinity Rivers and the lower portions of the Brazos, Colorado, and Guadalupe Rivers. The overflow was quite extensive but losses were minimized somewhat due to the fact that most of the crops had been harvested.

For several days, November 22 to 26, low pressure persisted over southern Texas, with an extensive mass of dense, polar air to the north. This resulted in widespread precipitation from eastern Texas, northward to Kansas and southeastern Missouri.

Some of the 24-hour amounts in Texas were as follows: In the Sulphur River drainage, Ringo Crossing, 2.50 inches on the 23d and 0.62 on the 24th; Naples, 2.00 inches on the 23d and 1.67 on the 24th; in the Sabine Basin, Logansport, La., had 11.33 on the 23d and 4.67 on the 24th; Rockland, in the Neches watershed, had 5.75 on the 24th and 3.27 on the 25th; in the Trinity Basin, Trinidad, had 2.60 on the 23d and 2.58 on the 24th; and Long Lake, 8.21 and 9.26, on the same dates; in the Brazos watershed, Valley Junction, had 4.95 and 3.19 on the 23d and 24th, Washington, 9.60 and 2.68; and Hempstead, 16.00 and 4.46, on the 24th and 25th; and in the Colorado Basin, Columbus, had 4.11 and 7.35 on the 24th and 25th.

Generally over the country, the precipitation during the month was well above normal in much of the Great Basin in the West and east of the Rocky Mountains except the extreme Southeast. Accounts of the floods are given below:

**Atlantic Slope Drainage.**—Light to moderate floods occurred in the lower portions of the Roanoke, Neuse, and Cape Fear Rivers from the 15th to the 25th but no damage was reported.

The stages in the Pee Dee River were high near the middle of the month, but did not reach flood stage at any point.

A rise occurred in the Broad and Santee Rivers on the 14th. Flood stage was reached at Blairs, S. C., on the 14th and at Rimini, S. C., the stage in the Santee River was slightly above flood stage on the 16–17th.

**Red River Basin.**—Heavy rains on the 22–24th in the watersheds of the Ouachita and the Little Missouri Rivers resulted in a flood stage in the Ouachita River at Arkadelphia, Ark., on the 24th. The crest stage was 18.2

feet, 1.2 foot, above flood stage on the same day. The loss in Ouachita County has been estimated at \$1,000.

**West Gulf of Mexico Drainage.**—Heavy rains were general from November 21 to 26 over the upper Red River watershed and caused all of the streams to rise rapidly. However, flooding occurred only in the Sulphur River. At Ringo Crossing, Tex., a stage of 26 feet was reached on the 26th and at Naples, Tex., a stage of 27.4 feet on the 29–30th. The losses from this flood have been estimated at \$4,300.

Precipitation was excessive over portions of the Sabine, Neches, Trinity, and Brazos Rivers, as discussed elsewhere in this report, and the resulting floods were moderate to heavy. As the stages were still above flood stage at the close of the month a further report will be made on these floods.

In the lower watersheds of the Colorado and Guadalupe Rivers excessive rains caused floods from November 24 to 29. Crest stages in the Colorado were 36.5 feet at Columbus, Tex., on the 25th and 35.3 feet at Wharton, Tex., on the 26th where the flood stages are 24 and 26 feet, respectively. In the Guadalupe River a crest of 28.5 feet (7.5 feet above flood stage) occurred at Victoria, Tex., on the 26th. Losses have been estimated at \$82,000 in the Colorado River and \$7,500 in the Guadalupe River.

**Pacific Slope Drainage.**—Light flooding on November 29 in the Santiam River was confined to the bottom lands. No material damage was reported.

## FLOOD-STAGE REPORT FOR NOVEMBER 1940

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE					
	<i>Feet</i>			<i>Feet</i>	
James: Columbia, Va.....	10	15	15	10.3	15
Roanoke:					
Weldon, N. C.....	31	15	18	34.8	16
Williamston, N. O.....	10	20	25	10.7	23
Neuse:					
Neuse, N. C.....	14	16	18	15.2	17
Smithfield, N. O.....	13	17	19	14.0	19
Haw: Moncure, N. C.....	20	15	15	20.5	15
Cape Fear: Lock No. 2, Elizabethtown, N. C.....	22	16	18	24.7	17
Broad: Blairs, S. C.....	14	14	14	14.0	14
Santee: Rimini, S. O.....	12	16	17	12.4	17
MISSISSIPPI SYSTEM					
<i>Red Basin</i>					
Ouachita: Arkadelphia, Ark.....	17	24	24	18.2	24
Sulphur:					
Ringo Crossing, Tex.....	20	{11	14	23.0	11
Naples, Tex.....	22	{23	30	26.0	26
		27	(1)	27.4	29-30
WEST GULF OF MEXICO DRAINAGE					
Sabine: Logansport, La.....	25	24	(1)	35.9	27
Neches: Rockland, Tex.....	22	26	(1)	25.5	30
Trinity:					
Dallas, Tex.....	28	25	28	32.4	26
Trinidad, Tex.....	28	24	(1)	34.6	27
Long Lake, Tex.....	40	25	(1)	46.0	28
Riverside, Tex.....	40	26	27	40.1	27
Liberty, Tex.....	24	25	(1)	26.9	29-30
Brazos:					
Waco, Tex.....	27	26	26	27.2	26
Valley Junction, Tex.....	44	25	27	47.4	26
Washington, Tex.....	45	27	(1)	47.6	29
Hempstead, Tex.....	40	24	(1)		
Richmond, Tex.....	35	26	(1)	38.7	28
Colorado:					
Columbus, Tex.....	24	24	25	36.5	25
Wharton, Tex.....	26	25	27	35.3	26
Guadalupe:					
Gonzales, Tex.....	20	6	6	21.0	6
		24	24	20.4	24
Victoria, Tex.....	21	6	10	27.1	9
		26	29	28.5	26
PACIFIC SLOPE DRAINAGE					
<i>Columbia Basin</i>					
Santiam: Jefferson, Oreg.....	10	29	29	10.3	29

<sup>1</sup> Continued into following month.